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Agricultural Memorandum No 761a

Botulism on the Norfolk Broads.

L.P. Smith

Further investigation into the weather conditions 1969-75 over the Norfolk Broads has led to the following results:-

With Nil = no deaths, Low = below 100, Moderate = below 1000, High = above 1000 deaths of wildfowl, then

Year	Disease	Longest sequence of days $\geq 21^{\circ}C$	Longest sequence 1 day break	Total days May-Aug	May-August Evaporation	Rain	Difference
1972	Nil (0)	3	3	14	16.8	8.0	8.8
1974	Low (2)	5	6	28	17.0	7.8	9.2
1969	Low (2)	12	13	38	17.8	10.3	7.5
1973	Moderate (5)	8	8	36	18.4	8.2	10.2
1971	Moderate (5)	8	11	39	17.1	7.6	9.5
1970	Moderate (6)	6	9	40	17.6	4.6	13.0
1975	High (10)	17	22	53	19.2	4.5	14.7
Regression Factor				A			B

Thus, although 1969 was warmer than 1974, it probably had the least drop in water level. 1975, besides being the warmest summer, probably had the greatest drop in water level.

Using a 0-10 scale of severity, (in brackets above), then

$$\text{Disease severity} = 0.15A + 0.7B - 8.5$$

with a multiple correlation of 0.98 and partials 0.99 and 0.99 on A and B.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

November 1975.

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Agricultural Memorandum No 761

Botulism on the Norfolk Broads

L P Smith

This year some 3000 more wildfowl were found dead on the Norfolk Broads, botulism being the suspected cause, the disease being confirmed in many cases. Previous deaths from this disease have occurred since 1969 in this area. Local records enabled a rough classification to be made of the severity. The temperature records at Coltishall were examined with the following result:

Year	Severity	Number of days with air day maxima 21°C or over	24°C or over
1975	High	60	25
1970	Moderate	50	23
1971	"	49	7
1973	"	46	14
1969	Low	43	12
1974	"	31	5
1972	Nil	14	2

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell
October 1975